**Appendix 2**

**Arctic SDI Reference Model Glossary**

1. **Reference Model**

A reference model in enterprise engineering is an abstract framework consisting of an interlinked set of clearly defined concepts produced by an expert or body of experts in order to encourage clear communication.

*The Organization for the Advancement of Structured Information Standards states that a reference model is "an abstract framework for understanding significant relationships among the entities of some environment, and for the development of consistent standards or specifications supporting that environment.*

*A reference model is based on a small number of unifying concepts and may be used as a basis for education and explaining standards to a non-specialist. A reference model is not directly tied to any standards, technologies or other concrete implementation details, but it does seek to provide a common semantics that can be used unambiguously across and between different implementations."*

[*http://en.wikipedia.org/wiki/Reference\_model*](http://en.wikipedia.org/wiki/Reference_model)

1. **Arctic SDI Reference Model Categories**
2. Users
   1. Arctic Council – Respond to Arctic Council needs through the use and promotion of location based data, visualization and analysis through commonly accepted spatial data infrastructure constructs.
   2. Strategic Linkages to Governments’ Priorities – Investments in Arctic SDI are linked to each country’s respective domestic priorities
   3. Scenarios – Use case scenarios are built to guide development. These use case scenarios may originate from any source.
3. Governance
   1. Memorandum of Understanding – instrument of co-operation between member countries
   2. Arctic Plan – A plan that outlines at both strategic and operational levels the scope, governance, outputs. Details from a variety of working groups are found in Annexes.
   3. Global Federation of Spatial Data Infrastructures – Where practical, linkages made between the collective vision of Arctic SDI and those related SDI efforts that we participate in as respective nations , for example global, regional, domestic and thematic geospatial forums, standards bodies and communications.
4. Data
   1. Imagery – raster data from sensors on satellite, plane or ship platforms; e.g. multispectral, passive or active.
   2. Sensors – data from in-situ sensors, for example water buoys, weather stations, etc.
   3. Volunteered – data collected and offered by the public typically via mobile applications.
   4. Data Model – over time striving towards common data models and data integration
   5. Reference Data – vector data used in creation of reference or base map of the Arctic. The base will form the backdrop for thematic data. Includes place names, projections, and symbology.
   6. Thematic – data related to a theme of physical or human geographies, e.g. statistical, transportation, ice extent normals, etc.
   7. Hydrographic – International Hydrographic Organization and national hydrographic charting data
   8. Semantic – common ontologies in support of semantic web
5. Technology
   1. Operations – day to day operations of web services and portal
   2. Cloud – Private sector based large cloud providers, e.g. Amazon EC-3 or Esri.
   3. Success Metrics – reports on content and traffic
   4. Federated Architecture – technical linkages to global, regional and domestic SDI initiatives
6. Standards
   1. Projections – polar projections supporting multiple views of arctic data
   2. Symbolization- common map symbolization, colours, etc.
   3. De facto – selected standards that are in common use but not ISO or OGC. For example geographic information system and remote sensing analysis vendor formats
   4. Web Services – input to OGC and other web service specifications
   5. OGC – Open Geospatial Consortium
   6. ISO – International Organization for Standardization
   7. INSPIRE – European SDI and European Location Framework (ELF)
7. Best Practices
   1. Operational Policies that publish spatial data infrastructure guidelines on protected information, access methods, data management and dissemination.
   2. Implementing Arrangements are specific agreements that have legal, financial or extensive in-kind commitments executed under the umbrella of the Memorandum of Understanding.
8. Communications
   1. Runs across all categories of Arctic SDI. Strategic and multi-perspective key messages that can be re-used. To ensure consistent strategic communications across a wide variety of situations, for example at standards bodies, with other SDI initiatives, with Arctic Council and with one’s own government
   2. Outreach communications via Arctic SDI website to engage users and practitioners.